

NOTE ON A REMARKABLE EXAMPLE OF FRACTURE
IN KEROSENE SHALE.

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(Plate IV.)

The figure that I give, of the specimen exhibited at this meeting will, I hope, afford material for the study of fracture. It involves questions of mineralogy, mechanics and geology.

In minerals the form of the fracture depends generally upon differences of elasticity along different axes, and it is evident that, besides this, the greater the homogeneity of the mineral, the nearer the form of the fracture will be to that determined by theory.

Some specimens of the so-called "Kerosene Shale" exhibit a perfect conchoidal fracture due to homogeneity. The fracture here represented is, no doubt, very complicated; but I suggest that it might be due to vibration, the lines of fracture occurring along the nodal lines. I also suggest that, as some of the specimens of shale show a very distinct plane of easy fracture (stratification marked by fossil ferns), this might account for the existence of what is very nearly a plane of symmetry in the specimen.

In order to show how the fracture might have been determined by the nodal lines I have represented a cross-section exhibiting undulating curves and their intersections.

Little is known of the analytical problem raised as regards non-crystallized solids unless homogenous, and direct experiments would certainly throw some light on the subject, as well as on the molecular constitution of Torbanite or "Kerosene Shale."